

REMARKS

This Amendment is in response to the Office Action mailed March 7, 2005. Claims 1-12 were pending in the application. Claims 1-6 and 9-12 were rejected and claims 7-8 were objected to as being dependent upon a rejected base claim but allowable if rewritten in independent form.

In this Amendment, Applicants have cancelled claim 10 and have amended claims 1, 2, and 4. Claims 3, 5-9 and 11-12 are not amended. Applicants respond to the Office Action as follows.

Response to Claim Rejections - 35 U.S.C. § 102

Claims 1, 2, 4-6, 9-12 were rejected under 35 U.S.C. § 102(e) as being anticipated by Yamakura et al. US 2003/0227716. Claim 10 has been cancelled.

Claims 1, 2 and 4-5 as amended recite a method including a step of etching a trench prior to slicing the wafer to form a trailing edge of air bearing surfaces of a plurality of sliders. As admitted on page 5 of the Office Action, Yamakura fails to show a trench fabricated at a wafer level prior to slicing the wafer into slider bars and accordingly allowance thereof is respectfully requested.

Claim 6 recites a method including the step of fabricating a trench having a recessed trench surface spaced from a trailing end surface of the slider to form a trailing edge of a raised bearing surface of the slider defined by an etched depth of the trench.

Claim 6 was rejected based on Yamakura without reference to specific structure in the reference which teaches the recited claim limitations. Yamakura teaches a slider including groove surfaces 5, 6, 22a on a disc facing surface of the slider. Groove surfaces 5, 6 and 22 are forward and aft of the transducer element or head element portion 7 as shown in FIGS. 2-3 and FIGS. 7-8. The groove surfaces 5, 6 and 22 are formed by etching the air bearing or disc facing surface. A

recessed dimension of the groove surfaces 5, 6 and 22 relative to the air bearing surface is defined by an etch depth of the groove. The etched depth of Yamakura defines a recessed dimension of the groove surfaces 5, 6 and 22 and not a trailing edge of the raised bearing surface as recited in claim 6.

In Yamakura, the grooves are etched or ion milled on the disc facing surface to form a recessed groove surface defined by the etched depth. For example in step 105 of Yamakura (e.g. FIG. 10B), the lapped disc facing surface (or air bearing surface) is processed by ion milling to form a shallow groove surface recessed below raised bearing surface 4a, 4b, 4c an etched depth. In step 106, the shallow groove surface is processed to form a deep groove surface recessed an etched depth.

In step 200, the lapped disc facing surface or air bearing surface is processed to form a super shallow groove surface 22 having an etched depth.

In each of the steps described, the disc facing surface is milled or etched to form the groove surfaces having a recessed dimension below the raised bearing surface defined by an etched depth of the groove. In Yamakura, the etched depth forms recessed groove surfaces and not the trailing edge as recited in claim 6.

As described in Applicants' specification, process limitations make it difficult to place or align mask layers to fabricate raised and groove surfaces. For example, placement or alignment of the groove surfaces on the disc facing surface and thus the trailing edge of the air bearing surface is limited by alignment process limitations. In contrast in claim 6, the trailing edge of the raised bearing surface is defined by an etched depth of a trench rather than via alignment of the mask layers on the disc facing surface of the slider. Based upon the foregoing, allowance of claim 6 as well as objected claims 7-8 is respectfully requested.

Claims 9 and 11-12 recite a head including a trench in an overcoat layer "forming a trailing edge of the slider and the trailing edge . . . defined by an etched depth of the trench". As discussed above, in Yamakura, an etched depth of grooves 5, 6 or 22 defines a recessed groove surface and not the trailing edge of the slider as set forth in claims 9 and 11-12. Accordingly, allowance of claims 9 and 11-12 is respectfully requested.

Response to Claim Rejections - 35 U.S.C. § 103

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamakura et al in view of Horr et al., U.S. Re 30601. Claim 3 is dependent upon claim 1 which as amended is allowable over the combination of Yamakura and Horr as discussed above.


New claims 13-21 have been added. Favorable consideration thereof is respectfully requested.

Applicants submit replacement drawing sheets 1-7 for the original drawing sheets submitted with the application. Please replace the original drawing sheets with the replacement sheets.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 
Deirdre Megley Kvale, Reg. No. 35,612
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

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